

Supplements and amendments to the Chinese butterflies recently described or discussed

(Lepidoptera: Nymphalidae & Lycaenidae)

by

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Abstract: *Aulocera jingxiaomeiae* HUANG & WANG, 2017 was rediscovered from NW. Yunnan and W. Guizhou, with ♀♀ reported for the first time. ♂ syntypes of *A. loha japroa* TYTLER, 1939 and *A. padma thawgawa* TYTLER, 1939 are illustrated for the first time. A new synonym is recognized: *A. padma thawgawa* TYTLER, 1939 **syn. nov.** (= *A. padma verres* FRUHSTORFER, 1911). Some of HUANG's (2017) treatment on the *Eugrumia* taxa are corrected: the specimens from Honglashan, SE Tibet actually belong to *E. koenigi* (GOLTZ, 1939), due to an overlooked lectotype designation made by GOLTZ (1940). The true taxonomic position of *E. discalis* (SOUTH, 1913) is still uncertain, probably independent or conspecific with *E. koenigi* (GOLTZ), requiring a further research on ♂ genitalia. A further new species of *Eugrumia* from Jiangda, NE. Tibet is described: *E. xuejila* **spec. nov.**. A further ♂ of the very rare *Sinthus confusa* EVANS, 1925 is reported from Tengchong, W. Yunnan, with habitus and ♂ genitalia illustrated. The type locality of *Pieris stoetzneri* (DRAESEKE, 1924) is clarified and the following taxonomic changes are given: *Synchloe nigricans* TALBOT, 1932 **syn. nov.** (= *Synchloe stötzneri* DRAESEKE, 1924), *Pieris shangrilla koidesia* TADOKORO, WANG & BOZANO, 2013 **syn. nov.** (= *Synchloe stötzneri* Draeseke, 1924), *Pieris stoetzneri shangrilla* TADOKORO, SHINKAWA & WANG **stat. nov.** (= *Pieris shangrilla* TADOKORO, SHINKAWA & WANG, 2013).

Introduction: After publishing the papers on *Eugrumia*, *Aulocera* and *Sinthus* (HUANG, 2017; HUANG & WANG, 2017; HUANG & ZHU, 2018), the author had the opportunity to examine more materials on these taxa. So that some supplements and amendments are presented in this paper. In addition, *Pieris stoetzneri* (DRAESEKE, 1924) was discussed repeatedly by some authors during the last years, but there was still a mistake in referring to the original description, thus a brief discussion is made herein.

Abbreviations:

BMNH:	Natural History Museum, London.
BSNU:	Biological laboratory of Shanghai Normal University, Shanghai, P.R. China.
CHH:	Collection of Hao Huang, Qingdao, China.
CCF:	Collection of Feng Cao, Hunan, China.
HT:	Holotype.
LT:	Lectotype.
PT:	Paratype.
TL:	Type locality.

Nymphalidae

Aulocera jingxiaomeiae HUANG & WANG, 2017 (figs. 1-6, 11-16)

Remarks. 1 ♂, 3 ♀♀ of this species were collected by the author from Lijiang and Zhongdian in August 2018. This species (figs. 5-6) was observed flying with *A. loha chinensis* SAKAI, AOKI & YAMAGUCHI, 2001 (figs. 7-8) at the slopes of a hill near Zhongdian. The ♀ does not differ much from the ♂, being usually a little larger in size with broader wings and blunter apex of forewing, sometimes with a little broader discal band on forewing.

In addition, Mr. F. CAO collected this species from a locality of Caohai, Weining, W. Guizhou in large number. *A. loha chinensis* SAKAI, AOKI & YAMAGUCHI (figs. 9-10; CCF) was observed flying together with this species (figs. 1-2, 11-16; CCF) in a much smaller number. These two sympatric species are easily distinguishable from each other, with no intermediate form found.

Aulocera loha japroa TYTLER, 1939 (fig. 17)

Remarks. The photos of a ♂ syntype kept in BMNH are published herein (fig. 17). This syntype matches with the original description by TYTLER (1939). It looks like the ♂ of *A. loha chinensis* SAKAI, AOKI & YAMAGUCHI very much, but differs from the latter in having hindwing discal band not entering space 1b. It became clear that all the populations from China including those from Dulong valley and Nujiang valley belong to *A. loha chinensis* SAKAI, AOKI & YAMAGUCHI. On the other hand, *Aulocera loha japroa* TYTLER is probably restricted to Indian areas.

Aulocera padma verres FRUHSTORFER, 1911 (figs. 18-19)

Aulocera padma verres FRUHSTORFER, in SEITZ, 1911: 309, from "West China"; GROSS, 1958: 282, neotype designation, pl. 5, fig. 2 for ♂ neotype (TL: Tsekou, NW. Yunnan); SAKAI, AOKI & YAMAGUCHI, 2001: 40, figs. 22-23, ♂ from Paomashan, Kanding; HUANG & WANG 2017: 212, fig. 4 from Weixi, 216, fig. 21 (neotype reproduced from GROSS, 1958).

Aulocera padma thawgawa TYTLER, 1939: 247, 3 ♂♂, 1 ♀ (TL: Hthawgaw, N.-E. Burma). **syn. nov.**

Remarks. The photos of a ♂ syntype of *Aulocera padma thawgawa* TYTLER kept in BMNH are published herein (fig. 18). This syntype matches with the original description (TYTLER, 1939). It can not be distinguished from the ♂ of *Aulocera padma verres* FRUHST. from NW. Yunnan (fig. 19). It is possible that TYTLER (1939) when describing his *thawgawa* TYTLER as new, overlooked the publication of *verres* FRUHST.

Eugrumia koenigi (GOLTZ, 1938)

Erebia discalis SOUTH, 1913: 351, partium on ♂ from Kiala (now Honglashan).

Erebia koenigi GOLTZ, 1938: 46 (TL: Atuntse, now Deqin).

Paralasa batanga: D'ABRERA, 1990 (nec GOLTZ, 1939): 190, fig. for ♂ syntype (actually a mislabeled syntype of *Erebia koenigi* GOLTZ).
Eugrumia koenigi: DELLA BRUNA et al., 2000 b: 297; DELLA BRUNA et al., 2002: 34, figs. for syntypes from Atuntse.
Eugrumia discalis: HUANG, 2017: 205, figs. for specimens (Honglashan) and ♂ genitalia.
Eugrumia discalis batanga: HUANG, 2017: 206, fig. 11 for ♂ syntype (actually a mislabeled syntype of *Erebia koenigi* GOLTZ).
Distribution: NW. Yunnan (Deqin area), SE Tibet (Honglashan).

***Eugrumia discalis* (SOUTH, 1913)**

Erebia discalis SOUTH, 1913: 351, partim on ♀ from Rong se la, east of Batang; GOLTZ, 1940: 117, LT designation, ♀ from Rong se la (TL) as LT.

Paralasa batanga Goltz, 1939: 37 (TL: Batang); Goltz, 1940: 117, synonymy for *Erebia discalis* South.

Eugrumia discalis: Della Bruna et al., 2000b: 297.

Eugrumia discalis batanga: Huang, 2017: 205, partium on checklist only.

Distribution: W. Sichuan (Batang area).

Remarks. GOLTZ's (1940) LT designation, fully introduced by DELLA BRUNA et al. (2000 a, 2002), was entirely overlooked by the author. And again, D'ABRERA's (1990) illustration of a mislabeled syntype of *Erebia koenigi* GOLTZ was published by the author (HUANG, 2017) as syntype of *Paralasa batanga* GOLTZ.

However, *Eugrumia discalis* (SOUTH) is a local species restricted to Batang area. It differs from *E. dabrerai* HUANG, 2017 from Qinghai and Gansu by having a larger size and a less extensive reddish discal patch, not entering space 1b on forewing upper side. *E. discalis* (SOUTH) is probably separable from all other taxa in specific level or is conspecific with *E. koenigi* (GOLTZ), as a ♂ of the latter (HUANG, 2017: 206, fig. 4) is transitional to the former in the small subapical ocellus on forewing upper side. So far, *E. discalis* (SOUTH) is the only species with ♂ genitalia not examined yet.

The biodiversity of *Eugrumia* DELLA BRUNA et al., 2000 seems to be far richer than we can even imagine. And a further new species is described from a NE Tibetan area near Qamdo as follows.

***Eugrumia xuejila* spec. nov. (figs. 20-21)**

HT ♂ (fig. 20): China, Xizang Tibetan Autonomous Region, Qamdo Prefecture, Jiangda County, Xuejila Pass, 4246 m, 13. VI. 2017, H. HUANG leg., deposited in BSNU.

PT: 1 ♀ (fig. 21; CHH), same data as HT.

Etymology. This name, refers to the name of the TL, Xuejila Pass.

Diagnosis. This new species is similar to *Eugrumia koenigi* (GOLTZ) in external features, but is closer to *E. bozanoi* (DELLA BRUNA et al., 2000) than to all others in ♂ genitalia and distribution. It can be distinguished from all the known species, except the sympatric *E. herse* (GRUM-GRSHIMAILO, 1891), by the following combination of characters.

- 1) Size larger than in *E. dabrerai* HUANG, but smaller than in *E. bozanoi* (DELLA BRUNA et al.).
- 2) Forewing upper side with discal patch entering a little into space 1b as in *E. bozanoi* (DELLA BRUNA et al.), different from that of other species [occupying full width of space 1b in *E. dabrerai* HUANG, not entering space 1b in both *E. koenigi* (GOLTZ) and *E. discalis* (SOUTH)].
- 3) Forewing upper side with the pale discal patch more or less reddish, not so bright yellow as in *E. bozanoi* (DELLA BRUNA et al.).
- 4) Subapical ocellus on forewing upper side markedly larger than in both *E. discalis* (SOUTH) and *E. dabrerai* HUANG.
- 5) Irregular patches of pale and dark scales on hindwing underside like in *E. dabrerai* HUANG, but much larger and coarser than in the remaining species.

♂ genitalia [unknown for *E. discalis* (SOUTH)]:

- 6) Tegumen in lateral view abruptly descending before uncus.
- 7) Upper margin of uncus in lateral view strongly upturned.
- 8) Uncus like in *E. dabrerai* HUANG, markedly shorter than in *E. koenigi* (GOLTZ) and *E. bozanoi* (DELLA BRUNA et al.).
- 9) Socus like in *E. bozanoi* (DELLA BRUNA et al.), more broadly protruded than in *E. koenigi* (GOLTZ) and *E. dabrerai* HUANG.
- 10) Juxta like in *E. koenigi* (GOLTZ), with base wider than in *E. bozanoi* (DELLA BRUNA et al.) at posterior view, entirely different from that of *E. dabrerai* HUANG.
- 11) Valva shorter and more upturned at apex than in all other species, with apical extension markedly shorter than in *E. koenigi* (GOLTZ) and more coarsely serrate than in *E. dabrerai* HUANG, and with more teeth at inner apex than in *E. bozanoi* (DELLA BRUNA et al.).
- 12) Aedoeagus with subzonal sheath thicker than in all other species.

Remarks. Although the ♂ genitalia of *E. discalis* (SOUTH) remain unknown, the new species can be easily distinguished from *E. discalis* (SOUTH) by the much larger subapical ocellus on forewing upper side. There seems to be intense parallel differentiation of species among the genus by geographical isolation. And the new species is distributed much nearer *E. bozanoi* (DELLA BRUNA et al.) than all the remaining species. In external features, the new species is closer to *E. koenigi* (GOLTZ) than to all the others, but these two species are very different in ♂ genitalia. It is possible that each small area of the Tibetan plateau has its own species of *Eugrumia* DELLA BRUNA et al.. And an undescribed species has been known from Yushu, Qinghai (K. SONG, pers. com.). The new species is sympatric with *E. herse* (GRUM-GRSHIMAILO) at Jiangda area.

Lycaenidae

***Sinthusia confusa* EVANS, 1925 (figs. 26-27)**

Remarks. This interesting species was recorded by HUANG & ZHU (2018) from Tengchong, W. Yunnan and Chayu, SE. Tibet. At that moment the ♂ specimen from Tengchong was unavailable to them so that only ♀♀ were illustrated. Recently a ♂ was collected by Mr. H. LU from Datang, Tengchong and was dissected by the author (figs. 26-27). The ♂ from Tengchong matches with the ♂ from SE. Tibet in most of the genital structures except the markedly broader lateral extensions of the conjoined basal part of valvae.

However, such difference seems to fall into the individual variations commonly found in other species of *Sinthus* MOORE, 1884. As for *S. chenzhibing* HUANG & ZHU, 2018, the ♂ of fig. 52 in HUANG & ZHU (2018) has the lateral extensions of valvae much broader than in the ♂♂ of figs. 50-51. As for *S. zhejiangensis* YOSHINO, 1995 the ♂ of fig. 55 in HUANG & ZHU (2018) has the lateral extensions of valvae broader than in the ♂ of fig. 54.

In external features, the ♂ from Tengchong differs remarkably from that from SE. Tibet by having a smaller size, an additional black dusting in lower discal area of hindwing upper side, and the more interrupted discal markings on both wings underside. To give a convincing subspecific classification, the specimens from Nagaland, NE. India should be examined.

Pieridae

Pieris stoetzneri (DRAESEKE, 1924) (TL: Kangding, not Lou-tse-kiang)

Aporia davidis: LEECH, 1894: pl. 36, fig. 1. for ♀ from Tatsienlu (actually holotype of *Synchlœ nigricans* TALBOT, 1932); RÖBER in SEITZ, 1907: pl. 17-d for ♀ (reproduced from LEECH, 1894).

Pieris davidis ab. *nigricans* VERITY, 1905-1911: pl. 29, fig. 16 (reproduced from LEECH, 1894). **Infrasubspecific.**

Synchlœ stoetzneri DRAESEKE, 1924: 6; 8 ♂♂ (TL: Tat. = Tatsienlu); WATKINS, 1927: 335, synonymy for *Pieris davidina* OBERTHÜR, 1891 (incorrect synonymy).

Aporia davidis ab. *nigricans*: BOLLOW in SEITZ, 1930: 94.

Synchlœ nigricans TALBOT, 1932 (nec Verity, 1907): 279, catalogue with references. **syn. nov.**

Pieris (*Synchlœ*) *stoetzneri* (sic!): BRIDGES, 1988: II-86.

Pieris stoetzneri: WU, 2010: 314; SUGIYAMA, 2015: 29, pl. 1, figs. 4 & 20.

Pieris shangrilla koidesia TADOKORO, WANG & BOZANO, 2013: 87, figs. 1, 3-left, 5-left (TL: Tianquan); TADOKORO, 2017: 119, synonymy for *Synchlœ nigricans* TALBOT, 1932. **syn. nov.**

Pieris stoetzneri shangrilla TADOKORO, SHINKAWA & WANG, 2013 (TL: Zhongdian) **stat. nov.**

Pieris davidis: VERITY, 1905-1911: pl. 30, fig. 46 for ♂ from Lou-tse-kiang (Nuijiang).

Pieris davidina: WATKINS, 1927 (nec. OBERTHÜR, 1891): 335, 5 ♂♂, 1 ♀ from Yungning and Kari, NW. Yunnan.

Sinopieris stoetzneri: HUANG, 2003: 77, material from Nuijiang area.

Pieris stoetzneri: WU, 2010: 314, material from Yunnan; SUGIYAMA, 2015: 29, pl. 1, figs. 1-3 & 17-19.

Pieris shangrilla TADOKORO, SHINKAWA & WANG, 2013: 3, fig. 1 for ♂ (TL: Zhongdian district); TADOKORO, 2017: 119, synonymy for *Synchlœ stoetzneri* DRAESEKE, 1924.

Remarks. In a recent paper to deal with the synonyms of *Pieris stoetzneri* (DRAESEKE), TADOKORO (2017) wrongly regarded Lou-tse-kiang (Nuijiang, NW. Yunnan) as the TL of *Pieris stoetzneri* (DRAESEKE). In an earlier paper, TADOKORO, SHINKAWA & WANG (2013:7, fig. 13) published the photos of a ♂ of *Aporia martinetti* (OBERTHÜR, 1884) from Sunpanting kept in "Senckenberg Naturhistorische Sammlungen, Dresden" as "Type specimen of *stoetzneri* DRAESEKE, 1924". However, DRAESEKE (1924) described two taxa using the species group name "*stoetzneri*": one as *Aporia martinetti stötzneri* DRAESEKE on a single ♂ from "Sump." (= Sumpanting, now Songpan) on page 3, another as *Synchlœ stoetzneri* DRAESEKE on 8 ♂♂ from Tat. (Tatsienlu) on page 6. DRAESEKE (1924) obviously knew about the differences between *Aporia* and his *Synchlœ*, as he placed all the species, later included by HUANG (1995, 1998, 2003) into *Sinopieris* (currently treated as a synonym of *Pieris*: WU, 2010; TADOKORO & WANG, 2014), into *Synchlœ* and in the same paragraph. DRAESEKE's (1924) description is clear and he finally stated: "Verity replicates this species in his plate 30, fig. 46 as *davidis*"; that does not mean that VERITY's specimen represents the type specimen. It is obvious that the type specimen of *stoetzneri* DRAESEKE, illustrated by TADOKORO et al. (2013:7, fig. 13), belongs to *Aporia martinetti stoetzneri* DRAESEKE which is later treated as an aberration of *Aporia martinetti* (OBERTHÜR) (BOLLOW, in SEITZ 1930; DELLA BRUNA, GALLO & SBORDONI, 2004, 2013). WATKINS (1927) was the first who knew correctly about the relationships of these taxa in old publications, he made only one mistake on *Pieris davidina* OBERTHÜR, 1891 which was proved to be a synonym of *Pieris venata* LEECH by TADOKORO, SHINKAWA & WANG (2013). HUANG (2003) followed DRAESEKE (1924) and WATKINS (1927) on this matter but he doubted WATKINS' (1927) opinion to treat *Synchlœ stoetzneri* DRAESEKE as synonym of *Pieris davidina* OBERTHÜR.

This species was recently discussed also by SUGIYAMA (2015), and a further subspecies, *soedai* SAKAI, 2015 was described from the NE. Tibetan area between Jomda and Dege.

Acknowledgments: Dr. BLANCA HUERTAS, NHM kindly provided the photos of the type specimens of *Aulocera* taxa. Mr. HUI LU helped to collect the very rare ♂ of *Sinthus confusa* Evans from Tengchong. Mr. FENG CAO loaned material of *Aulocera jingxiaomeiae* HUANG & WANG from Guizhou. Mr. SI-YAO HUANG loaned material of *Aulocera padma verres* FRUHSTORFER from Yunnan. Dr. G. LAMAS helped in references.

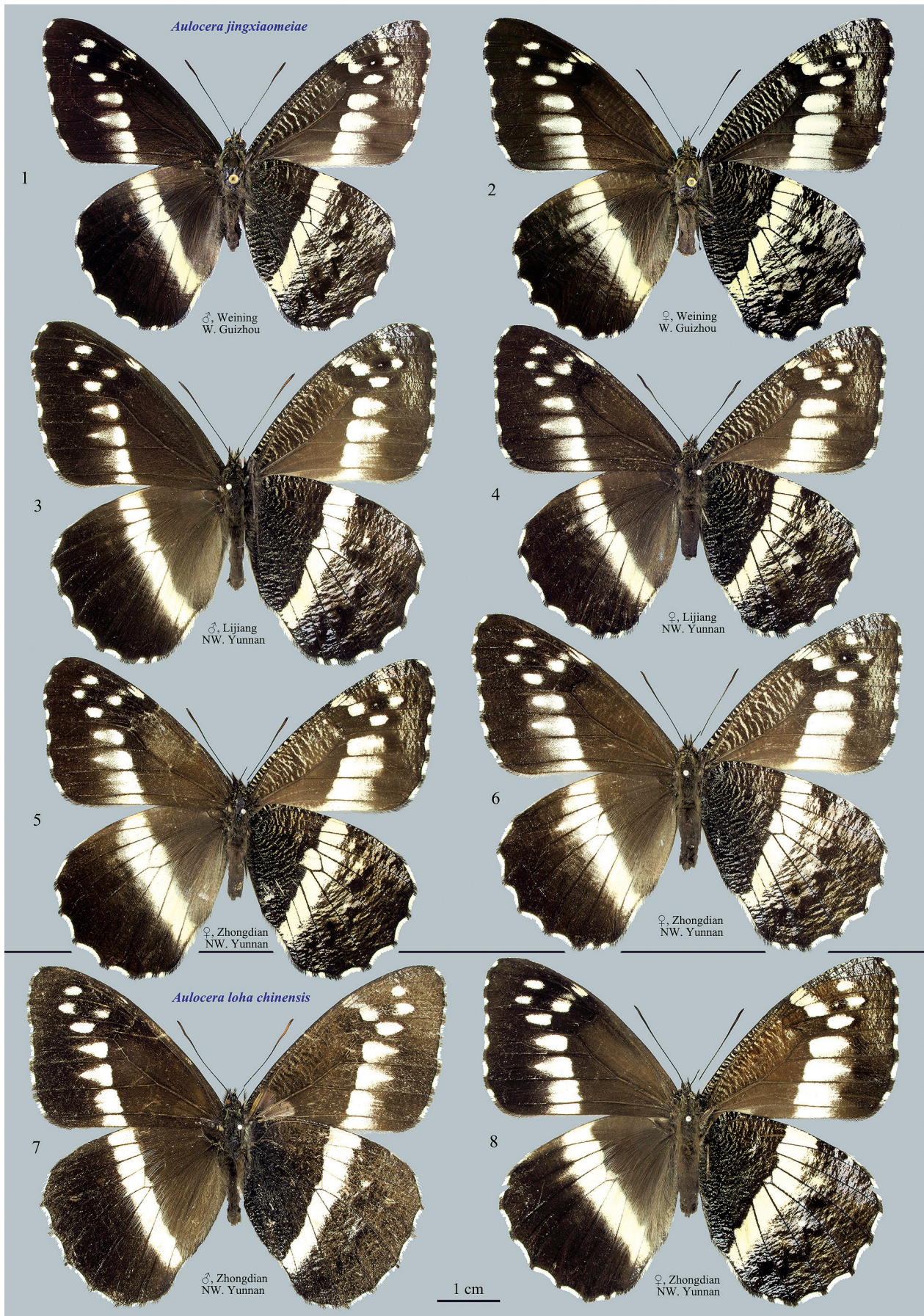
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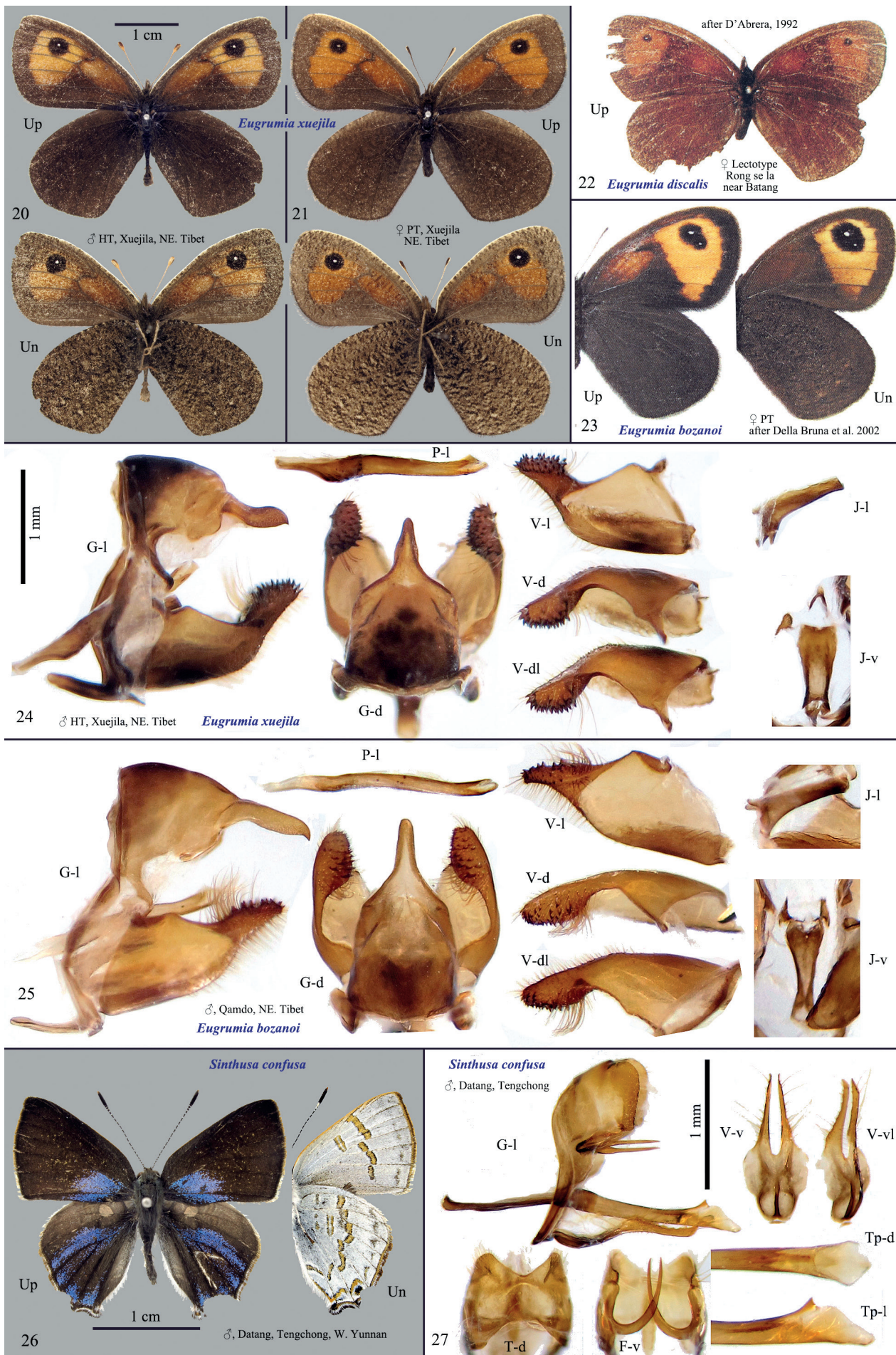
Figs. 1-8: Habitus of *Aulocera* species at same scale. (1-6) *A. jingxiaomeiae* HUANG & WANG, 2017; (7-8) *A. loha chinensis* SAKAI, AOKI & YAMAGUCHI, 2001. (left half- upper side, right half- underside)



Figs. 9-16: Habitus of *Aulocera* species at same scale. (9-10) *A. loha chinensis* SAKAI, AOKI & YAMAGUCHI, 2001; (11-16) *A. jingxiaomeiae* HUANG & WANG, 2017. (left half- upper side, right half- underside).



Figs. 17-19: Habitus of *Aulocera* species at same scale. (17) *A. loha japroa* TYTLER, 1939, syntype, © NHM; (18) *A. padma thawgawa* Tytler, syntype, © NHM; (19) *A. padma verres* FRUHSTORFER, 1911. (Up- upper side, Un- underside).



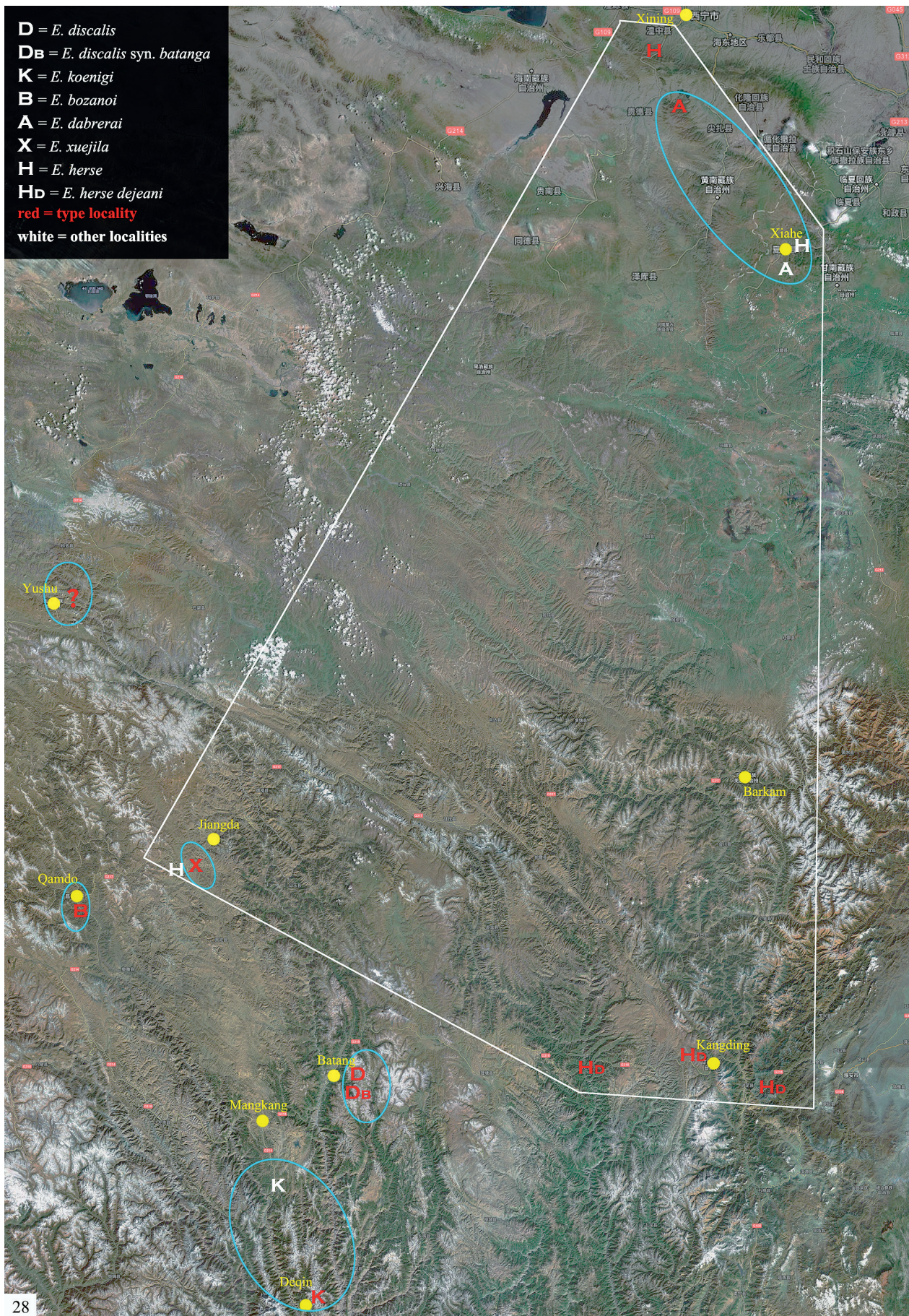


Fig. 28: Distribution of *Eugrumia* species.